Environmental Assessment for the Expansion of III Corps Shoppette at Fort Hood, Texas

Prepared for:

Army and Air Force Exchange Service
and
Directorate of Public Works
Fort Hood, Texas

III ARMORED CORPS
PHANTOM

Purchase Order Number 01-4620-4488

December 2003

FINDING OF NO SIGNIFICANT IMPACT

EXPANSION OF III CORPS SHOPPETTE
FORT HOOD, TEXAS

1.0 NAME OF THE ACTION

Expansion of III Corps Shoppette, Fort Hood, Texas

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

The Proposed Action is to expand the existing III Corps Shoppette at Fort Hood, Texas, to add retail space, reconfigure the existing retail space, add diesel fuel service, and replace and expand the existing gasoline tanks and dispensing system. In addition to the Proposed Action and the No-Action Alternatives, two other alternatives were considered, but eliminated from further consideration since they would not meet the identified purpose and need or would entail greater environmental impact and cost.

3.0 SUMMARY OF ENVIRONMENTAL EFFECT OF PROPOSED ACTION

Based on the Environmental Assessment (EA) prepared October 2003, which is hereby incorporated by reference, no adverse impacts are anticipated to occur relative to air quality, water resources, soils and geology, land use, biotic communities, cultural resources, socioeconomics, noise, hazardous materials and solid waste, transportation, utilities, or environmental justice.

4.0 CONCLUSION

On the basis of the findings of the EA, no significant impact is anticipated from the Proposed Action on human health or the natural environment. A Finding of No Significant Impact (FNSI) is warranted and an Environmental Impact Statement (EIS) is not required for this action.

_____ _____

JERRY G. KLINE
Lt Col, USAF
Chief, Environmental Division
Real Estate Directorate

Date

_____ _____

WILLIAM H. PARRY, III
COL, AR
Garrison Commander

Date

COVER SHEET
ENVIRONMENTAL ASSESSMENT FOR EXPANSION OF III CORPS SHOPPETTE FORT HOOD, TEXAS

Agency: Army & Air Force Exchange Service

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Proposed Action: The Army & Air Force Exchange Service (AAFES) proposes to expand the existing III Corps Shoppette at Fort Hood, Texas, to add retail space, reconfigure the existing retail space, add diesel fuel service, and replace and expand the existing gasoline tanks and dispensing system.

Designation: Final Environmental Assessment

Abstract: In addition to the Proposed Action and the No-Action alternatives, two other alternatives were considered but eliminated from further consideration since they would not meet the identified purpose and need or would entail greater environmental impact and cost. No adverse impacts from the Proposed Action are anticipated to occur relative to air quality, water resources, soils and geology, land use, biotic communities, cultural resources, socioeconomics, noise, hazardous materials and solid waste, transportation, utilities, or environmental justice.

Environmental Assessment

Expansion of III Corps Shoppette
Project Number 3740-00-000008
Fort Hood, Texas

Prepared for

Army & Air Force Exchange Service
AAFES RE-Zc
Dallas, Texas

December 2003

Purchase Order Number 01-4620-4488

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Executive Summary

EXECUTIVE SUMMARY

The Army & Air Force Exchange Service (AAFES) proposes to expand the existing III Corps Shoppette at Fort Hood, Texas, to add retail space, reconfigure the existing retail space, add diesel fuel service, and replace and expand the existing gasoline tanks and dispensing system.

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No adverse impacts are anticipated to occur relative to air quality, water resources, soils and geology, land use, biotic communities, cultural resources, socioeconomics, noise, hazardous materials and solid waste, transportation, utilities, or environmental justice.

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Acronyms and Abbreviations

ACRONYMS AND ABBREVIATIONS

AAFES	Army & Air Force Exchange Service
ACHP	Advisory Council on Historic Preservation
AQCR	Air Quality Control Region
AR	Army Regulations
AST	Aboveground Storage Tank
AWWA	American Water Works Association
BTU	British Thermal Unit
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Clean Water Act
dB	decibel
DoD	Department of Defense
DPW	Directorate of Public Works
EA	Environmental Assessment
EPA	Environmental Protection Agency
EIFS	Economic Impact Forecast System
EIS	Environmental Impact Statement
EPCRA	Emergency Planning and Community Right-to-Know Act
ESMP	Endangered Species Management Plan
FNSI	Finding of No Significant Impact
ft^2	square feet
ft^3	cubic feet
FWPCA	Federal Water Pollution Control Act
ICUZ	Installation Compatible Use Zone
HCS	Hazard Communication Standard
HMMP	Hazardous Materials Management Program
HSMS	Hazardous Substance Management System
lb	pound
L_{dn}	Day-Night Average Sound Level

L_{eq}	24-Hour Energy Equivalent Sound Level
L_p	Sound Pressure
MFH	Military Family Housing
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_x	Nitrogen Oxide
NOI	Notice of Intent
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
PM	Particulate Matter
PPA	Pollution Prevention Act
ppm	parts per million
PST	Petroleum Storage Tank
RCRA	Resource Conservation and Recovery Act
ROI	Region of Influence
RTV	Rational Threshold Value
SHPO	State Historic Preservation Officer
SO_x	Sulfur Oxide
SPCC	Spill Prevention Control and Countermeasure
SPO	Strategic Planning Office
TAC	Texas Administrative Code
TEA	Texas Education Agency
TCEQ	Texas Commission on Environmental Quality
tpy	tons per year
USACE	United States Army Corps of Engineers
USBC	United States Bureau of the Census
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
UST	Underground Storage Tank
VOC	Volatile Organic Compound

Chapter 1

Purpose and Need for Action

CHAPTER 1

PURPOSE AND NEED FOR ACTION

1.1 INTRODUCTION

The National Environmental Policy Act (NEPA) requires Federal agencies to take into consideration the potential environmental consequences of proposed actions in their decision making process. The intent of NEPA is to protect, restore, or enhance the environment through well-informed Federal decisions. The Council on Environmental Quality (CEQ) was established under NEPA to implement and oversee Federal policy in this process. The CEQ subsequently issued the Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 Code of Federal Regulations [CFR] Sections 1500-1508). These regulations specify that an Environmental Assessment (EA) be prepared to:

- Briefly provide sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FNSI);
- Aid in an agency's compliance with NEPA when no EIS is necessary; and
- Facilitate preparation of an EIS when one is necessary.

This EA includes a description of the Proposed Action and Alternatives, including the No-Action Alternative. It also includes a characterization of the affected environment and potential environmental consequences of the Proposed Action, Alternatives to the Proposed Action, and the No-Action Alternative. Alternatives to the Proposed Action are identified and their potential impacts are evaluated.

1.2 LOCATION OF PROPOSED ACTION

Fort Hood encompasses 217,337 acres, or 339.6 square miles in Bell and Coryell counties in central Texas (Figure 1-1). It is located approximately 60 miles north of the City of Austin and 40 miles southwest of the City of Waco. The City of Killeen is adjacent to the Installation's southern and southeastern boundaries, the City of Copperas Cove is located along the southwest boundary.

Fort Hood was established in 1942 as Camp Hood to prepare soldiers for tank destroyer combat during World War II. It became a permanent installation as Fort Hood in 1950.

Fort Hood provides resource and training facilities for active and reserve units in support of the Army's mission. The mission is to maintain a total force, trained and ready

to fight, to serve our nation's interest, both domestically and abroad, and to maintain a strategic force capable of decisive victory. In support of the mission, over 60% of the land (133,157 acres) at Fort Hood is used for maneuver training that involves combat, combat support, and combat service support elements integrated into formations to conduct multi-echelon, combined arms training to simulate battlefield conditions. The post's major units include the Army's III Corps with the 1st Cavalry Division and 4th Infantry Division.

1.3 PURPOSE AND NEED FOR ACTION

The Army & Air Force Exchange Service (AAFES) has identified a need to provide additional consolidated, centrally located, shopping and retail fuel service in the central portion of the Cantonment on Fort Hood. The purpose of the action would be to improve services so that customers can conveniently obtain several types of services without having to experience long waits, go off post, or make more than one stop on base.

The existing III Corps Shoppette is located along the main entrance Road for Fort Hood (Hood Road), and is the primary AAFES facility in the central portion of the Cantonment. The existing facility is undersized and inefficiently configured for the volume of sales generated. Current retail service volume and wait times at the shoppette indicate a need for additional and more efficient retail space.

The existing gasoline dispensing system cannot meet current demand, causing automobile queues to back up into adjacent parking lots. The existing petroleum storage tanks at the shoppette have inadequate volume for the volume of sales generated, and retail diesel fuel is unavailable in the central portion of the Cantonment.

AAFES has identified the addition of these expanded services as a way to enhance the living conditions and improve the morale and welfare of military personnel and their families at Fort Hood. High morale and welfare tend to correlate with longer commitments by Army personnel, which would enhance Fort Hood's long-term productivity by reducing the rate of personnel turnover and training costs for new members. In addition, some of the profits generated from the facility would be distributed to the installation for the Morale, Welfare, and Recreation services.

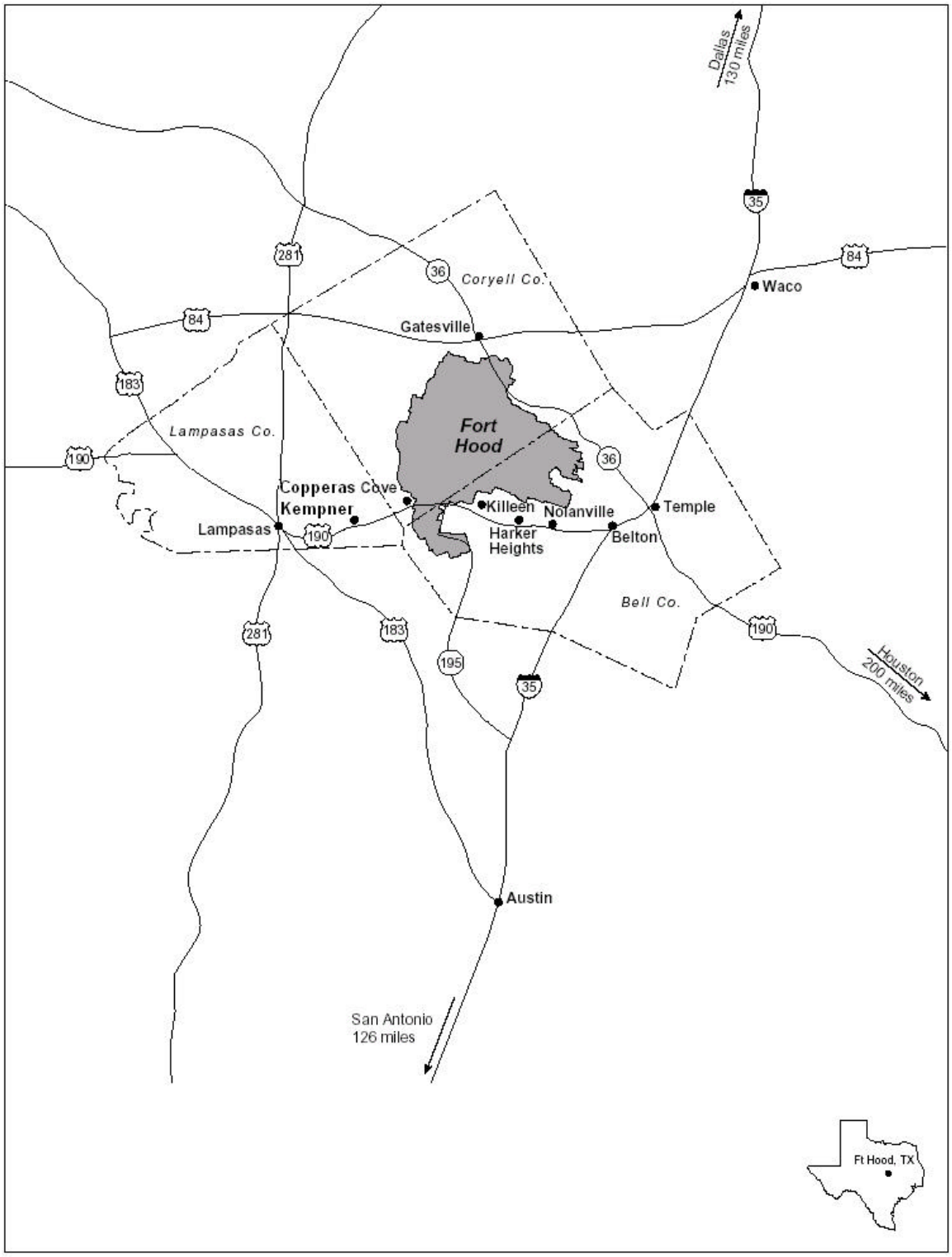

Figure 1-1 Location of Fort Hood, Texas

Chapter 2

Description of Proposed Action And Alternatives

CHAPTER 2

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 HISTORY OF THE FORMULATION OF ALTERNATIVES

The following general criteria were developed to identify reasonable alternatives. These criteria were developed based on the purpose and need and other land use and environmental factors pertinent to screening potential alternatives.

- Convenience to AAFES customers;
- High visibility to potential customers;
- Safe vehicular access and minimal impacts on existing traffic flow in the area;
- Compatibility with land-use designations and surrounding visual character;
- Adequate space to accommodate the intended uses;
- Compatibility with current and future planned projects; and
- Minimization of adverse impacts to natural resources.

The alternatives in the following subsections were identified as possible alternatives for development of the Proposed Action.

2.1.1 Expand III Corps Shoppette

The current III Corps Shoppette is located along the main entrance road for Fort Hood (Hood Road) in a prime location to serve the central portion of the Cantonment. The existing facility has substantial service life remaining. Sufficient area is available at the current location to expand the current service areas and add retail diesel fuel.

Expansion and addition of services at the existing shoppette would improve the customer service experience and maintain current retail purchase patterns in the central Cantonment.

2.1.2 Build New Facility at Alternate Location

Construction of a new facility would entail greater environmental impacts than expansion and renovation of the existing facility. The current location is well-situated to serve the identified needs, and a new location would not improve services from the standpoint of location. A new facility would compete for sales with the III Corps Shoppette, unless the existing facility were abandoned and demolished. The existing facility has substantial service life remaining. In addition, construction of a new facility

would be more costly. For these reasons, construction of a new facility at an alternate location was eliminated from further consideration.

2.1.3 Add Retail Space and Fuel Services to Other Existing Shoppettes

Other existing shoppettes are situated away from the central area along the main entrance road to Fort Hood. Due primarily to locations away from the main entrance road to Fort Hood, adding retail space to other existing shoppettes would not meet the identified purpose and need.

A separate AAFES project with an earlier start date would add gasoline services to the Picnic Palace Shoppette, the only AAFES shoppette in the Cantonment that does not currently have gasoline service capability. The gasoline service at the Picnic Palace Shoppette would primarily serve Military Family Housing (MFH) areas in proximity to the Picnic Palace Shoppette, not the identified need along the main Fort Hood entrance road. Construction of the Picnic Palace project would be completed before the proposed III Corps Shoppette project began construction.

For the foregoing reasons, adding retail space and fuel services to other existing shoppettes (aside from the Picnic Palace project which serves a different purpose) was eliminated from further consideration.

2.1.4 No-Action Alternative

No construction would be required under the No-Action Alternative, and additional AAFES services would not be available for Fort Hood personnel and dependents.

2.2 ACTIONS TO BE EVALUATED FURTHER

2.2.1 Description of the Preferred Alternative

The Proposed Action is the expansion of the existing III Corps Shoppette on the west side of Hood Road just south of the intersection with 761st Tank Battalion Avenue. This would be accomplished through the following project:

- the addition of approximately 4,000 square feet (ft^2) of retail space to the existing 7,000 ft^2 facility;
- the rehabilitation and reconfiguration of the existing 7,000 ft^2 of space;
- the removal of two existing 10,000-gallon underground storage tanks (UST) and four fuel dispensers; and
- the installation of three 15,000-gallon petroleum storage tanks (PST) and twelve gasoline dispensers in an improved configuration to increase fueling capacity.

The three PSTs would contain regular (two PSTs) and premium gasoline grades, and mid-grade gasoline would be supplied by blending the two grades at the pumps. One of the two regular PSTs would be compartmented to provide 4,000 gallons of diesel fuel capacity, and four of the fuel dispensers would dispense diesel. The diesel fuel may include a blend of "biodiesel," which is derived from animal or vegetable fats or oils, and petroleum diesel. The use of biodiesel would result in lesser environmental effects, particularly air emissions, than the use of pure petroleum diesel.

The PSTs would be considered aboveground storage tanks (AST), but would be installed in concrete vaults below the ground surface. There is a possibility that the tanks would be installed as USTs with a "geoliner" membrane to provide additional protection from environmental contamination. The analysis in this EA considers installation of the PSTs as either ASTs or USTs.

All construction would occur within the existing limits of the III Corp Shoppette site on areas currently covered by paving or other site improvements. Approximately 10 full-time equivalent positions would be added at the shoppette.

The location of the Proposed Action is shown on Figure 2-1, and a general site plan for the III Corps expansion is shown on Figure 2-2.

2.2.2 Description of the No-Action Alternative

The CEQ regulations implementing NEPA require that a "no-action" alternative be evaluated. Under this alternative, there would be no expansion of retail food or fuel services for AAFES facilities at Fort Hood. No direct environmental effects would result from implementation of the No-Action Alternative, but this alternative would not meet the identified purpose and need.

2.4 OTHER CUMULATIVE ACTIONS

Master planning personnel at Fort Hood indicated that no Army or other tenant organization construction projects were anticipated to coincide with the Proposed Action. However, AAFES is planning to construct a Mega Food Court across from the existing III Corps Shoppette near the intersection of Hood Road and 761st Tank Battalion Avenue. Construction is anticipated to begin in fall 2003 on this site, which is approximately 1.7 acres in size. Two buildings would be constructed containing approximately 7,300 ft^2 of space. The Mega Food Court would provide retail fast food services from several retailers and a family amusement area.

Construction for the expansion of the Picnic Palace Shoppette, another proposed AAFES project which should begin in fall 2003, is not anticipated to overlap with the III Corps Shoppette project.

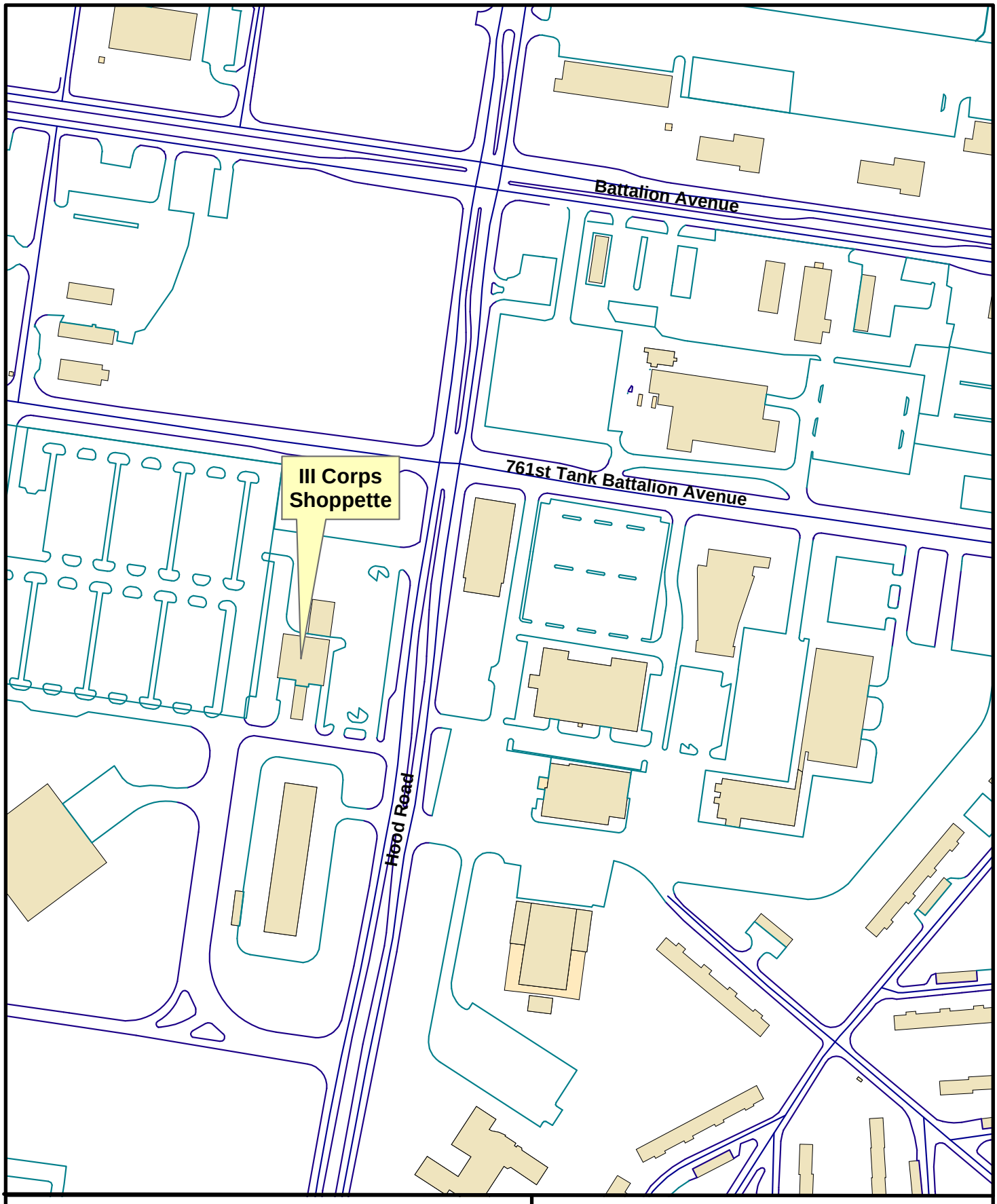

Figure 2-1
Location of III Corps Shoppette

Expansion of III Corps Shoppette
Environmental Assessment

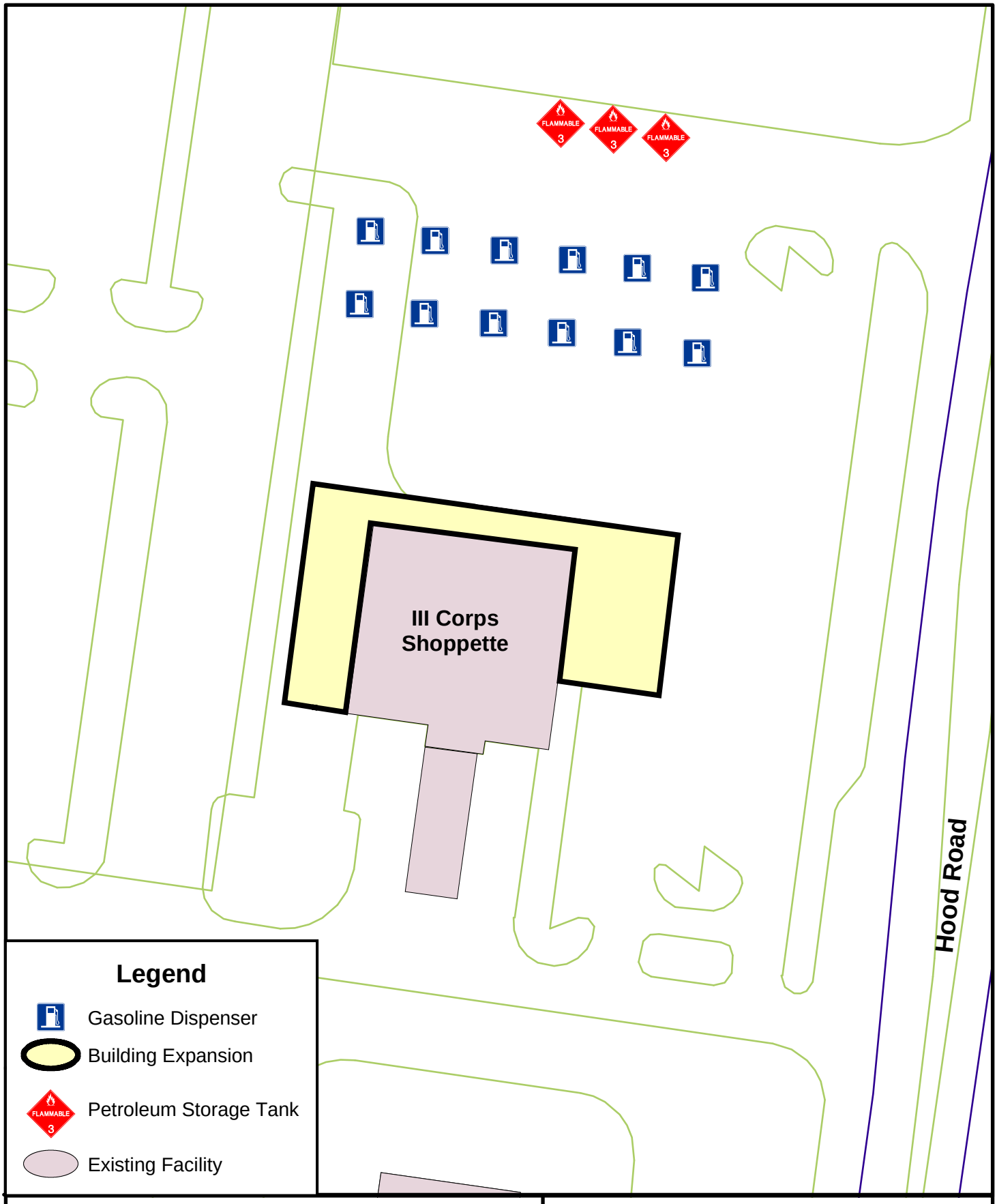

Figure 2-2
Site Plan for Proposed Action

Expansion of III Corps Shoppette
Environmental Assessment

Chapter 3

Affected Environment

CHAPTER 3

AFFECTED ENVIRONMENT

3.1 AIR QUALITY

Fort Hood is located in the hill country of Central Texas approximately 60 miles north of Austin and 40 miles southwest of Waco. The average annual precipitation is 30.4 inches, with the highest monthly totals recorded in September and May. The least monthly precipitation occurs in July. Temperatures typically range from 38 °F (degrees Fahrenheit) to 94 °F, averaging 68 °F (FAA, 1994). Daily variations in weather conditions are considerable (TEA, 2001).

Fort Hood lies within Bell and Coryell Counties in the central portion of Air Quality Control Region (AQCR) #212 also known as the Austin-Waco Intrastate AQCR. The Texas Commission on Environmental Quality (TCEQ) performs air quality control functions for the region. TCEQ has adopted the National Ambient Air Quality Standards (NAAQS) for the following criteria pollutants: carbon monoxide, ozone or photochemical oxidants, particulate matter with aerodynamic diameters less than or equal to nominal diameters of 10 nanometers and 2.5 nanometers, lead, oxides of nitrogen, and sulfur dioxide (DPW, 2003a). The NAAQS are shown in Table 3-1 (EPA, 2003).

Table 3-1 National Ambient Air Quality Standards

Air Pollutant	Averaging Time	Primary NAAQS[a,b]	Secondary NAAQS[a,c]
Carbon Monoxide	8-hour 1-hour	9 ppm (10 mg/m^3) 35 ppm (40 mg/m^3)	
Lead	Quarterly	1.5 μg/m^3	1.5 μg/m^3
Nitrogen Dioxides	Annual	0.053 ppm (100 μg/m^3)	0.053 ppm (100 μg/m^3)
Ozone	1-hour 8-hour	0.12 ppm (235 μg/m^3) 0.08 ppm (157 μg/m^3)	0.12 ppm (235 μg/m^3) 0.08 ppm (157 μg/m^3)
Particulate Matter (measured as PM_{10})	Annual 24-hour	50 μg/m^3 150 μg/m^3	50 μg/m^3 150 μg/m^3
Particulate Matter (measured as $PM_{2.5}$)	Annual 24-hour	15 μg/m^3 65 μg/m^3	15 μg/m^3 65 μg/m^3
Sulfur Oxides (measured as SO_2)	Annual 24-hour 3-hour	0.03 ppm (80 μg/m^3) 0.14 ppm (365 μg/m^3)	No standard No standard 0.50 ppm (1,300 μg/m^3)

[a] All measurements of air quality are based on standard temperature and pressure of 25 degrees Celsius and 760 millimeters of mercury, respectively. Units of measurements are parts per million (ppm), milligrams per cubic meter (mg/m3) and micrograms per cubic meter (μg/m3).

[b] National Primary Standards: The levels of air quality necessary to protect the public health with an adequate margin of safety. Each state must attain the primary standards no later than three years after the state implementation plan is approved by the USEPA.

[c] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Each state must attain the secondary standards within a "reasonable time" after the state implementation plan is approved by the USEPA.

Until recently, Fort Hood was located in an attainment area, meaning no ambient air quality standards were exceeded. However, in 1999, the two counties encompassing Fort Hood, were re-designated covered attainment by TCEQ. These counties are now subject to portions of 30 Texas Administrative Code (TAC), Chapter 115 that previously did not apply. Covered attainment counties must comply with restrictions on Reid vapor pressure, transport tanker testing and stage I vapor recovery where applicable to reduce impact on non-attainment areas of the state. The new regulations are being addressed through a revision of Fort Hood's Title V operating permit application, which originally received approval on 29 October 2001. Fort Hood must comply with all requirements of the Title V operating permit and certify compliance annually (DPW, 2003a).

Typical air pollution sources are boilers, generators, paint spray activities, abrasive blasting operations, degreasing units, engine testing, fires for vegetation control, fuel storage and dispensing operations and landfill operations. Currently, Fort Hood's air pollution sources must comply with standard permits or permits by rule formerly known as standard exemptions under Texas Clean Air Act as administered by TCEQ (DPW, 2003a).

3.2 WATER RESOURCES

3.2.1 Surface Water

Runoff from Fort Hood flows into the Leon River watershed and the Lampasas River watershed, which are part of the Brazos River Basin. The Leon River watershed is fed by Nolan Creek, Cowhouse Creek, Owl Creek, and other intermittent tributaries and drains into Belton Lake. Reese Creek and various other tributaries feed the Lampasas River watershed. This watershed drains into Stillhouse Hollow Lake. Water resources on Fort Hood include 250 surface acres of lakes and ponds, 55 miles of rivers and permanent streams, and 136 miles of Belton Lake shoreline (DPW, 2003a).

3.2.2 Ground Water

The downdip portion of the Trinity Aquifer underlies Fort Hood. The primary stratigraphic areas that occur in the Fort Hood area are (in ascending order) pre-Cretaceous rocks, the Travis Peak formation, the Glen Rose formation, the Paluxy formation, and the Walnut formation. The major important aquifer feature in the area is the Travis Peak formation. Ground water on Fort Hood is usually first encountered at depths of 50-60 feet, although such supplies may not necessarily be in usable quantities or of usable quality. Use of this aquifer by Fort Hood has now ceased due to regional overuse and excessive drawdown of the aquifer. Presently, the significant source of water is the Belton Lake reservoir (DPW, 2003a).

3.2.3 Floodplains

Areas within the 100-year floodplains are located on portions of Stampede, Browns, Hargrove, and Clabber Creek, while Cowhouse Creek has a broad floodplain (DPW, 2001). The area of the proposed action is not within the 100-year floodplain.

3.2.4 Water Quality

The Federal Water Pollution Control Act (FWPCA) of 1972, as amended by the Clean Water Act (CWA) and the Water Quality Act of 1987, forms the legal framework to support maintenance and restoration of water quality. The Oil Pollution Prevention Regulation (Title 40 Code of Federal Regulation (CFR) 112.1 through 112.7) addresses oil spill prevention provisions that are specified in the CWA. The EPA's Spill Prevention Control and Countermeasure (SPCC) program is based on that regulation and seeks to prevent oil spills from storage tanks into navigable waters. SPCC requirements include the preparation and implementation of a SPCC plan that will limit damage to ecosystems and human health. A post-wide SPCC plan is currently in effect for Fort Hood.

In Texas, TCEQ is the permitting authority for storm water discharges. Fort Hood is covered under No. TXR050000, which is a General Permit to discharge storm water. It covers industrial facilities that discharge storm water associated with industrial activity. The permit was issued 20 August 2001 and expires 20 August 2006. TCEQ also permits storm water discharges from construction sites through Construction General Permit No. TXR150000. This permit became effective on 5 March 2003. Both General Permits are under provisions of Section 402 of the CWA and Chapter 26 of the Texas Water Code.

3.3 SOILS AND GEOLOGY

The United States Department of Agriculture soil survey for Bell County shows the soil at the site is of the Denton-Urban land complex, with 1 to 3 percent slopes (USDA, 1977). Denton soils are silty clays to about 26 inches over a bedrock of fractured limestone. Structures including barracks, streets and stores are built on urban lands. The shrink-swell potential, corrosivity, and the sticky texture of this soil complex when wet can all adversely affect urban development (USDA, 1977).

Fort Hood is situated in the Lampasas Cut-Plains at the edge of the Edwards Plateau physiographic region. According to the Geologic Atlas of Texas, the rock formation underlying the site is Fort Worth Limestone with a thickness of 25 to 35 feet. Fort Worth Limestone consists of limestone interbedded with marl (BEG, 1970).

3.4 LAND USE

Fort Hood encompasses just over 217,000 acres and is located adjacent to the city of Killeen (TEA, 2001). There are several categories used to describe land use at Fort Hood. Land uses include areas such as, maneuver training, live fire training, recreation areas, ammunition supply areas, and urban areas.

The site of the proposed action is currently categorized as urban land use. The III Corps Shoppette is located on the west side of Hood Road just south of the intersection of

Hood Road and 761st Tank Battalion Avenue. Located nearby are Headquarters for the military installation, commercial facilities, and several large parking lots.

3.5 BIOTIC COMMUNITIES

Fort Hood is located in the Cross-Timbers ecological region of Texas, which is characterized by oak woodlands interspersed with grassland. The proposed site is located in an urban habitat area. Species diversity of the urban zones is low in comparison to natural habitats, but the densities of some species are often relatively high. The avifauna of urban areas may have higher densities than adjacent native habitats, although the species diversity is much lower. Most of the animals in urban areas are considered undesirable, for example the Norway rat, house mouse, and house sparrow (DPW, 2003a).

3.5.1 Threatened and Endangered Species

Four federally-listed threatened or endangered wildlife species have been observed on or adjacent to Fort Hood: black-capped vireo (*Vireo atricapillus*), golden-cheeked warbler (*Dendroica chrysoparia*), bald eagle (*Haliaeetus leucocephalus*), and whooping crane (*Grus americana*). The black-capped vireo and the golden-cheeked warbler reside on the installation during the summer breeding season. The bald eagle and interior least tern (*Sterna antillarum*) occur at areas adjacent to Fort Hood on Belton Lake, but do not nest in the area. Whooping crane occur rarely, as migrants or transients (Tazik et al., 1992).

Several invertebrate species and one salamander species have been recently identified in karst or cave formations beneath the installation. These karst features are associated with the groundwater system that is the source of spring waters and are protected from public and military activities. No karst geology is present in the area of the III Corps Shoppette that would provide habitat for these invertebrates and the salamander. Studies are ongoing to confirm the taxonomic status of these organisms (USACE, 2000; USFWS, 2000). These organisms do not have any protected status pursuant to the Endangered Species Act at the current time (USFWS, 2003), and are not located near the Proposed Action. The specimens of the potential new salamander species were collected from three caves in the northeast training ranges of Fort Hood, over ten miles northeast from the Proposed Action (USACE, 2000). Flow of water at Fort Hood is generally from northwest to southeast.

Fort Hood conducted formal consultation with the U.S. Fish and Wildlife Service (USFWS) during 1992 and 1993 concerning the military mission and associated land uses. A nonjeopardy Biological Opinion was issued in late 1993, which stipulated various research and management actions necessary to mitigate expected incidental take. A wildfire occurred in 1996 that exceeded acceptable incidental take allowances for black-capped vireo and golden-cheeked warbler habitat. During the formal consultations that resulted, the Army drafted an Endangered Species Management Plan (ESMP), finalizing the document in early 2000. The USFWS issued a Final Biological Opinion that included incidental take allowances and called for implementation of the ESMP and continuation of monitoring and management activities to promote recovery of the species.

Fort Hood is currently implementing the provisions of the ESMP and the current Biological Opinion (USACE, 2000; USFWS, 2000).

An additional eleven state listed threatened and endangered species (three birds, two fish, two mammals, three reptiles, and one insect) may be present at Fort Hood, but are not expected to be present in the area of the Proposed Action due to habitat requirements and/or the intensity of current range use. These are Henslow's sparrow (*Ammodramus henslowii*), loggerhead shrike (*Lanius ludovicianus migrans*), western burrowing owl (*Athene cunicularia hypugaea*), Guadalupe bass (*Micropterus treculi*), smalleye shiner (*Notropis buccula*), cave myotis bat (*Myotis velifer*), plains spotted skunk (*Spilogale putorius interrupta*), timber rattlesnake (*Crotalus horridus*), Texas garter snake (*Thamnophis sirtalis*), and the Leon river winter stonefly (*Taeniopteryx starki*).

According to the threatened and endangered species habitat maps from the Endangered Species Management Plan, the location of the III Corps Shoppette expansion is not within threatened or endangered species habitat.

3.5.2 Wetlands

Currently, Fort Hood does not have any marsh or wetland areas of significant acreage and the small isolated wet spots around seeps or old river sloughs are retained for wildlife purposes (DPW, 2003a). A review of the National Wetlands Inventory (NWI) map for the area revealed that no portion of the site or adjacent areas contains identified wetlands (NWI, 2003).

3.6 CULTURAL RESOURCES

Cultural resources include prehistoric and historic archaeological sites, buildings, structures, districts, artifacts, objects, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, or religious purposes. Historic properties, under 36 CFR 800, are defined as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register of Historic Places" (NRHP). The term "eligible for inclusion in the National Register" includes both listed and eligible properties that meet NRHP listing criteria as found in 36 CFR Part 60. Properties not yet evaluated may be considered potentially eligible for the NRHP and, as such, afforded the same regulatory consideration as nominated properties.

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, requires federal agencies to consult with the state historic preservation officer (SHPO) and the federal Advisory Council on Historic Preservation (ACHP) if proposed undertakings would affect resources of state, local, or national significance. These resources are identified in the NRHP.

The area surrounding Fort Hood has been occupied for approximately 10,000 years. Archaeological investigations suggest the prehistoric inhabitants of the area were nomadic hunter-gather groups, rather than agricultural societies. There are no existing

written records of societies prior to the first European contacts in the sixteenth century (DPW, 2003a).

Prior to 1942, Fort Hood consisted of small farming communities and ranches. The Department of the Army acquired a substantial portion of its current holdings in 1942 and established Camp Hood as a tank destroyer center. Facilities construction continued until 1943 and the installation was renamed Fort Hood in 1950. Further land purchases increased the size of the post to its present size of approximately 339.6 square miles (DPW, 2003a).

Approximately 2,150 prehistoric sites are located on Fort Hood. These locations comprise three types of prehistoric sites including open site camps, rock shelters, and burned rock mounds.

The III Corps Shoppette is located on paved ground within the disturbed Cantonment area.

3.7 SOCIOECONOMICS

Fort Hood is located in the Killeen-Temple Metropolitan Statistical Area (MSA), which serves as the region of influence (ROI) for socioeconomics. Killeen-Temple MSA is comprised of Bell and Coryell Counties, encompassing a land area of 2,124 square miles.

3.7.1 Population and Demographics

According to the Bureau of the Census, the estimated 2000 population of the Killeen-Temple MSA was 312,952. This represented an increase of 57,651 persons or 18.4 percent since 1990 (USBC, 2000).

As of September 2001, 40,672 active duty military personnel were assigned to Fort Hood. The total on-post population was 71,580 in 2001, with military family members comprising approximately 17,184, or 24 percent of the population (SPO, 2001).

In 2000, the Killeen-Temple MSA had 114,558 housing units, of which 105,457 were occupied, for an occupancy rate of 92 percent. This represents an increase of 19,631 housing units or 17 percent since 1990 (USBC, 2000). In September 2001, the family quarters located on Fort Hood were occupied by 5,922 military personnel. Approximately 85 percent of Fort Hood military personnel utilized off-base housing in 2001 (SPO, 2001).

3.7.2 Employment and Economy

In 2000, the Killeen-Temple MSA labor force was estimated at 157,415 with an unemployment rate of 3.5 percent. The military is the largest industry in the Killeen-Temple MSA, comprising approximately 24 percent of the labor force. The educational, health and social services industry comprise 18.3 percent of the labor force, followed by retail trade at 8.9 percent (USBC, 2000).

Killeen-Temple MSA had a per capita income of $16,546 and a median household income of $36,669 in 1999. Approximately 11.6 percent of the population lived below the poverty level (USBC, 2000).

Fort Hood expenditures were reported to be approximately $1.3 billion. Approximately 97.7 percent of Fort Hood expenditures are allocated to military pay (SPO, 2001).

3.8 NOISE

Noise is most often defined as unwanted sound. High levels of sound may be of an intensity that is damaging to human hearing and may interfere with the metabolic activities of wildlife. Sound levels are easily measured, but the variability is subjective and physical response to sound complicates the analysis of its impact on people. Physically, sound pressure (L_p) magnitude is measured and quantified using a logarithmic ratio of pressures whose scale gives the level of sound in decibels (dB). Because the human hearing system is not equally sensitive to sound at all frequencies, a frequency-dependent adjustment called A-weighting has been devised to measure sound in a manner similar to the way the human hearing system responds. Noise measured with the A-weighted sound level is expressed in "dBA" or "dB(A)." A C-weighted sound level is used to measure weapon blasts and is expressed in "dBC" or dB(C)" (DPW, 2003a).

Several methods have been devised to relate noise exposure over time to community response. The United States Environmental Protection Agency (USEPA) has developed the day-night average sound level (L_{dn}) as the rating method to describe long-term annoyance from environmental noise. L_{dn} is similar to a 24-hour energy equivalent sound level (L_{eq}). L_{eq} is a single-number sound descriptor representing the average sound level in a real environment, where the actual sound level varies with time. The L_{dn} has a 10-dB penalty for nighttime (10 P.M. to 7 A.M.) sound levels to account for the increased annoyance that is generally felt during normal sleep hours

Fort Hood Installation Compatible Use Zone (ICUZ) establishes noise contours and is used as a method of coordinating compatible land use with the neighboring communities (DPW, 2003b). The Fort Hood ICUZ is comprised of three noise zones. Zone I areas are generally acceptable environments for most activities, including residential construction. Zone I measurements correspond to noise levels less than 65 AL_{dn} or 62 CL_{dn}. For comparison purposes, this is less than the average sound levels for an urban area. Zone II consists of areas where the day-night sound levels are between 65 – 75 dBA or 62 – 70 dBC. Exposure to noise within these areas is considered significant. Land use in Zone II areas should be limited to industrial, manufacturing, transportation, and resource production activities (DPW, 2003a). Zone III sound levels are generally considered to be unacceptable for family housing. Sources of noise in this zone are typically from aircraft in the vicinity of airfields and blast noise from artillery and gunnery exercises (DPW, 2003b). The site of proposed construction is located within Zone I.

3.9 HAZARDOUS MATERIALS AND SOLID WASTE

A hazardous material is any substance or mixture of substances having properties capable of producing adverse effects on human health and safety or the environment. A hazardous material may be either a hazardous substance or a hazardous waste.

Army Regulations (AR) 710-2 and AR 200-1 and Federal, State, and local laws have increased the requirements for managing hazardous materials at Army installations. The Federal Laws mandating the management of hazardous materials include the Resource Conservation and Recovery Act (RCRA), the Emergency Planning and Community Right-to-Know Act (EPCRA), the Hazard Communication Standard (HCS), and the Pollution Prevention Act (PPA). These laws require Army installations to provide data to Federal, State, and local agencies on the types and quantities of hazardous materials stored, used, and disposed of on an installation.

The Hazardous Substance Management System (HSMS) is the Department of Defense (DoD) standard, automated information management system for tracking hazardous substances. In addition, the Army has adopted a program to standardize hazardous materials and hazardous waste management. This program, known as the Hazardous Materials Management Program (HMMP) is an established regulatory requirement (AR 710-2) that calls for the management and control of hazardous materials and hazardous waste on Army installations (DPW, 2003b).

The III Corps Shoppette does not store hazardous materials or generate hazardous waste. The existing USTs at the facility were installed in 1988, according to PST registration records.

Fort Hood operates a 154-acre Type I landfill under Permit #1866 issued by the Texas Department of Health on March 25, 1991. Inland Service, under contract to Fort Hood, collects municipal solid waste on post and operates the landfill. In 2001, Inland processed approximately 73,000 tons of refuge, at 200 tons per day (DPW, 2003a).

The III Corps Shoppette currently generates approximately 750 lbs. of solid waste per day during operation. This averages to approximately 0.02 tons of waste per square foot per year. The III Corps Shoppette generates approximately 0.19 percent of the waste processed on Fort Hood daily.

3.10 TRANSPORTATION

The III Corps Shoppette is located on the west side of Hood Road, just south of the intersections with 761st Tank Battalion Avenue. 761st Tank Battalion Avenue is a four-lane roadway, and Hood Road is a four-lane divided roadway that begins at Fort Hood's Main Gate. Both Hood Road and 761st Tank Battalion Avenue are classified as major roadways.

3.11 UTILITIES

In 2002, Fort Hood used 1.48×10^{12} British thermal units (BTU) of electricity and 1.18×10^{6} BTU of natural gas. Approximately 2.4 billion gallons of water was used and 1.3 billion gallons of wastewater was generated on Fort Hood in 2002 (Ramos, 2003).

The III Corps Shoppette utilized approximately 1.66×10^{9} BTU of electricity in 2002. This is 236,472 BTU per square foot (ft^2). Electricity use at the shoppette was approximately 0.11 percent of the annual consumption on Fort Hood. No natural gas is used at the III Corps Shoppette.

Based on federal water use indices, water consumption for each III Corps Shoppette customer is estimated at eight gallons of water per day (AWWA, 1996). Approximately 4,000 customers visit the shoppette each day resulting in an estimated 32,000 gallons of water consumed daily or 11.7 million gallons annually. This is 0.49 percent of the 2002 annual water consumption for the entire installation. With an estimated 95 percent of water entering the wastewater system, approximately 30,400 gallons of wastewater is used at the shoppette each day, or 11.1 million gallons annually. This is 0.86 percent of the total wastewater usage for Fort Hood in 2002.

3.12 ENVIRONMENTAL JUSTICE

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires agencies to identify and address any disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations (DPW, 2003a).

Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks requires each Federal agency to identify and assess environmental health and safety risks that may disproportionately affect children. Such risks are to be addressed in their policies, programs, activities, and standards. Agencies must conduct an evaluation of environmental health and safety effects on children and include an explanation of why the planned regulation is preferable to other feasible alternatives considered by the agency for all regulatory sections of the Executive Order (DPW, 2003a).

The III Corps Shoppette is located completely within the boundaries of the military installation. The site is located approximately one mile from the nearest Fort Hood entrance.

Chapter 4

Environmental Consequences

CHAPTER 4

ENVIRONMENTAL CONSEQUENCES

4.1 AIR QUALITY

Bell and Coryell counties are currently designated covered attainment areas. The proposed project includes the replacement of two 10,000-gallon PSTs and four gasoline dispensers with three 15,000-gallon PSTs and twelve gasoline dispensers. One of the new PSTs would be compartmented to provide 4,000 gallons of diesel fuel capacity which would be either pure petroleum diesel or a blend of petroleum diesel and "biodiesel," an alternative diesel fuel derived from animal or vegetable fats or oils with lower air emissions. The analysis in this section assumes pure petroleum diesel since the emissions would be higher.

Proposed Action. Emissions during the construction period may occur as a result of equipment fumes and fugitive dust. Estimated pollutant emissions from construction activities for the proposed project are located in Table 4-1. Estimates located in the tables are based on factors including duration of the project, square footage of the renovated area, square footage of area demolished, and type of ground surfacing material used.

Bell and Coryell counties are currently designated covered attainment areas. The proposed project includes the removal of two USTs, the addition of three 15,000-gallon PSTs, and twelve gasoline dispensers. Net estimated pollutant emissions from operation of the PSTs, based on the TANKS 4.0 computer model and annual throughput of 3,000,000 gallons of petroleum and 600,000 gallons of diesel, are reflected in Table 4-1 (EPA, 2001). Current annual throughput is estimated as 1,800,000 gallons. Emissions shown are net increases reflecting an increase in throughput of 1,200,000 gallons of petroleum and 600,000 gallons of diesel. The new tanks would include Stage I vapor recovery which results in a decrease in emissions per unit of throughput from the existing tanks.

The model analysis is based on tanks placed underground and not exposed to direct sunlight, and is therefore applicable to the ASTs or USTs. If installed as ASTs, the tanks would be placed in underground concrete vaults. If installed as USTs, a "geoliner" would be installed around the tanks.

Based on the HAP speciation used by Fort Hood air quality personnel for gasoline, it is estimated that approximately 6.5 percent by vapor weight of the VOC emissions from PST operations would be HAP emissions. Therefore, HAP emissions would be approximately 0.2 tons per year.

Table 4-1 Estimated Air Quality Pollutant Emissions

Construction Activity	CO (tons)	VOCs (tons)	NOx (tons)	SOx (tons)	PM^{10} (tons)
Site Preparation/ Ground Disturbance	-	-	-	-	3.14
Existing Building Renovation	0.09	0.02	0.20	0.02	0.01
Building Demolition	0.02	0.00	0.05	0.00	0.01
Asphalt Paving Operations	0.52	0.03	0.08	0.01	0.02
Concrete Paving Operations	0.06	0.01	0.14	0.02	0.01
PST Operation (annual)	-	3.00	-	-	-
Total Emissions	0.69	3.06	0.46	0.01	3.19

Anticipated emissions from project construction and operations are compared against stationary baseline emissions from Bell and Coryell counties in order to estimate the impact to the local air quality (Table 4-2). These baseline emissions only include major sources that must report emissions, and do not include any mobile sources or minor, non-reporting stationary sources.

Table 4-2 Comparison to Stationary Emission Baseline Conditions

Priority Pollutant	CO (tpy)	VOCs (tpy)	NOx (tpy)	SOx (tpy)	PM^{10} (tpy)
Net Emissions from Renovated III Corps Shoppette	0.69	3.06	0.46	0.01	3.19
Bell/Coryell Emissions (2001)	3,728.97	620.79	133.94	266.16	49.1
Net Increase Over Year 2001 Emissions (%)	**0.019**	**0.49**	**0.34**	**0.004**	**6.5**

Fort Hood personnel have indicated that any increases in emissions associated with operation of the PSTs would be compensated by decreases in permitted emissions from other sources at the post (Kennedy, 2003).

Pursuant to 30 TAC, Part 1, Chapter 111, Subchapter A, Rule 111.145, precautions will be taken to suppress dust emissions during construction by using one of the techniques listed in the rule.

The storage tanks would be registered pursuant to 30 TAC, Chapter 334, Subchapter F, Section 334.123. Manufacturer's datasheets for all pieces of equipment or facilities requiring air permits will be submitted to the DPW, Environmental Management Branch, air program manager, prior to start of construction, and the Fort Hood air quality permit will be modified accordingly. According to 30 Texas Administrative Code, Rule 115.222, any storage tank installed after December 22, 1998, in a covered attainment region shall utilize Stage I vapor recovery equipment. This is applicable to the Proposed Action.

The Proposed Action is not anticipated to adversely affect the local or regional air quality beyond minor, temporary dust emissions during construction which will be suppressed pursuant to TCEQ rules.

No Action. Under the no-action alternative, air quality would not be affected.

4.2 WATER RESOURCES

4.2.1 Surface Water

Proposed Action. The proposed project would not affect the flow of run-off from the site, and the entirety of the project would occur on previously developed land that is currently impervious cover. Therefore, impacts to surface water would not be expected.

No Action. Under the no-action alternative, there would be no effects on surface water.

4.2.2 Ground Water

Proposed Action. Ground water depth at the site is approximately 50-60 feet. The ground water depth would not be reached during installation of the PSTs. The PSTs would have containment structures that prevent outside contamination in the case of a spill; therefore, the proposed action is not expected to impact ground water.

No Action. There would be no effects on ground water under the no-action alternative.

4.2.3 Floodplains

Proposed Action. The project is not located within a designated 100-year floodplain. Construction of the III Corps Shoppette would take place at the existing location, on a site previously covered by pavement or other improvements. Therefore, the proposed action would not increase the amount of impervious cover in the area.

No Action. Under the no-action alternative, the 100-year floodplain would not be affected.

4.2.4 Water Quality

Proposed Action. Three 15,000-gallon PSTs would replace the two existing 10,000-gallon PSTs at the III Corps Shoppette. The PSTs are considered aboveground storage tanks (AST) but would be installed in concrete vaults below ground. An amendment to Fort Hood's current spill prevention control and countermeasure (SPCC) plan will be made to include the new PSTs at the III Corps Shoppette and ensure compliance.

This proposed project would not require a Notice of Intent (NOI) to be filed with TCEQ to activate Construction General Permit No. TXR150000, for disposal of storm water associated with construction since the area affected is less than 1 acre. Erosion control measures would be incorporated to minimize sediment runoff from construction areas. Impacts to water quality are not expected with the Proposed Action.

No Action. Construction would not occur under the no-action alternative, and there would be no construction-related impacts on water quality.

4.3 SOILS AND GEOLOGY

Proposed Action. Construction and renovation of the shoppette world occur on already developed land; therefore, no impacts to the soil and geology of the area would be expected.

No Action. Under the no-action alternative, there would be no effects on soils and geology.

4.4 LAND USE

Proposed Action. Since the proposed action is an expansion and renovation of the current III Corps Shoppette, the land use would remain consistent with the existing land use.

No Action. There would be no change from existing land uses under the no-action alternative.

4.5 BIOTIC COMMUNITIES

4.5.1 Threatened and Endangered Species

Proposed Action. The proposed site is located in an urban land use area that has been completely developed through building and paving. As noted in Section 3.5.1, it is not located in or adjacent to threatened or endangered species habitat as delineated in the Fort Hood ESMP and Biological Opinion by USFWS, effective in 2000, described in Section 3.5.1. The karst geology that provides habitat for recently identified invertebrate species and a salamander species is not present in, near, or under the site, and these species do not have a protected status under the Endangered Species Act (USFWS, 2003). Impacts to threatened or endangered species are not expected.

No Action. Threatened and endangered species would not be affected under the no-action alternative.

4.5.2 Wetlands

Proposed Action. The project is not located in or near a wetland. Therefore, the proposed action is not anticipated to impact any wetlands.

No Action. Under the no-action alternative, there would be no effects on wetlands.

4.6 CULTURAL RESOURCES

Proposed Action. The III Corps Shoppette is of no known architectural or historical significance. Expansion of the shoppette would occur on paved grounds in a disturbed area. Fort Hood cultural resources personnel reviewed the property and concluded that "no historic properties are affected." (Huckerby, 2003). Therefore, additional consultation with State Historic Preservation Officer (SHPO) would not be warranted since no effect would occur on cultural resources that are in the NRHP or eligible for listing in the NRHP.

No Action. Under the no-action alternative, there would be no effects on cultural resources.

4.7 SOCIOECONOMICS

A socioeconomic impact would be considered significant if the proposed action resulted in substantial growth, concentration of population, the need for substantial new housing, or substantial new public services. The standard models of the United States Army Corps of Engineers (USACE) Economic Impact Forecast System (EIFS) were used to anticipate the effects of the proposed alternatives on the region of influence (ROI), the Killeen-Temple MSA. The rational threshold value (RTV) model from EIFS was then used to assess the potential significance of these effects. The RTV model analyzes annual changes in sales volume, income, employment, and population since 1969, and establishes significance criteria based on historic deviations in the value of these four socioeconomic indicators.

4.7.1 Population and Demographics

Proposed Action. The proposed expansion of the III Corps Shoppette would not change the population of the Killeen-Temple MSA. Ten employees would be hired for operation of the expanded shoppette. All employees are expected to be hired from within the local community. No relocations are anticipated as a result of the expansion; therefore local housing would not be affected.

No Action. The population and demographics of Killeen-Temple MSA would not be affected under the no-action alternative. There would also be no change to the current Fort Hood population.

4.7.2 Employment and Economy

Proposed Action. The proposed expansion of the III Corps Shoppette would include the construction of concrete footing, floor slab, a brick veneer wall, utility connections, plumbing, electrical, paved surfaces, sidewalks, curbs and gutters, installed shelving, information systems, and environmental requirements. The construction activities required for the expansion of the shoppette is estimated to cost approximately $2.8 million. This is 0.21 percent of the $1.3 billion in expenditures reported for Fort Hood in 2001 (SPO, 2001).

Total sales volume is defined as the total change in local business volume due to the proposed action. Expansion of the shoppette would result in an increase of the total sales volume within the ROI by $3,757,583 or 0.06 percent. This is below the total sales RTV value of 11.63 percent (EIFS, 2003).

An estimated 10 employees are expected to be hired for operation of the expanded shoppette. Each employee would receive a salary of $10 per hour or $20,800 annually. Employment would increase by 0.02 percent within the ROI, which is lower than the respective RTV of 6.27 percent. The total income would increase 0.02 percent, which is less than the income RTV of 10.14 percent (EIFS, 2003).

No Action. The no-action alternative would have no effect on employment or the economy.

4.8 NOISE

An impact would be considered significant if the federal action increased substantially the ambient noise levels for neighboring areas with noise sensitive uses.

Proposed Action. As indicated in Chapter 3, the area of the proposed action is within Zone I where corresponding noise levels are measured at less than 65 dBA. Noise levels within and adjacent to the project area would increase during the construction period. However, construction activity would not cause long-term noise impacts since it would be short-term and normally limited to daytime hours.

The primary noise from construction activities would be generated by vehicles and equipment involved in site grading, foundation preparation, facility construction, and finish work. Typical noise levels generated by construction activities range from an L_{eq} of 75 to 90 dBA at 50 feet from the sources, depending on the type and usage of the equipment. This L_{eq} is based on an 8-hour average for a typical construction day. Noise attenuates at a rate of approximately six decibels for each doubling of distance between the source and the receptor.

The construction noise would have some effect on outdoor speech communication in areas adjacent to the construction site. It is anticipated that all proposed construction and demolition activities would take place during standard working hours; therefore, noise generated from construction/demolition activities would not affect nighttime noise levels.

No Action. Under the no-action alternative, there would be no effects on noise.

4.9 HAZARDOUS MATERIALS AND SOLID WASTE

Proposed Action. The expansion and renovation of the existing shoppette and the replacement of two 10,000-gallon with three 15,000-gallon PSTs and twelve gasoline dispensers are proposed for the III Corps Shoppette. No hazardous materials would be stored or generated. The PSTs would be ASTs in concrete vaults below the ground surface or USTs with a "geoliner" to protect soil and groundwater resources. Fort Hood personnel have reviewed the design, considering the location and quantities of fuel stored. Leak detection is not required for ASTs. However, the lines associated with the ASTs, and the ASTs, would incorporate leak detection to protect soil and groundwater resources. Leak detection is required for UST lines and the USTs.

Management of the three 15,000-gallon PSTs would be conducted under the Hazardous Materials Management Program (HMMP). The tanks would be managed in compliance with Army Regulations (AR) 710-2 and AR 200-1 and federal, state, and local laws for the management of hazardous materials. The Fort Hood SPCC Plan would be amended to include the three PSTs if installed as ASTs in underground concrete vaults. Operation of these tanks would be in compliance with the regulations of the amended SPCC Plan. If installed as USTs, the SPCC plan would not require amendment.

Given the apparent age of the existing tanks and piping (1988 based on Fort Hood PST registration records), there is the possibility that minor leakage may have occurred over time. The registration records indicate that interstitial monitoring of the tanks would

occur, along with pipe leak detection, so any leakage should have been detected. Any contamination would be remediated when the tanks were removed.

The waste generated during the construction and demolition phase of the project would consist of building materials such as solid pieces of concrete, asphalt, metals (conduit, piping, wiring), and lumber. It is assumed that 4 lbs. of waste debris would be generated per ft^2 of building area during construction and 7 lbs of waste debris per ft^2 for renovation (Butler, 1995). Construction of the proposed expansion of 4,000 ft^2 would generate an estimated 16,000 lbs. or 8 tons of construction debris. The renovation and reconfiguration of the existing 7,000 ft^2 of space would generate an estimated 49,000 lbs. or 24.5 tons of debris. The area of the proposed action is covered by approximately 10,000 ft^2 of pavement, weighing approximately 144 lbs. per cubic foot (ft^3). Based on an estimated pavement depth of 4 inches, approximately 475,200 lbs. or 238 tons of pavement debris would be generated during construction. The total of 270.5 tons of solid waste that would be generated during construction is approximately 0.37 percent of the annual solid waste generated at Fort Hood.

Based on the additional 4,000 ft^2 of building, the expanded III Corps Shoppette would generate approximately 1,179 lbs. of solid waste daily during operation, a 57 percent increase from the current conditions. This is approximately 0.29 percent of the solid waste generated daily on Fort Hood.

The Proposed Action is not anticipated to adversely affect hazardous materials or wastes management or capacities at Fort Hood.

No Action. Hazardous materials and solid waste would not be affected under the no-action alternative.

4.10 TRANSPORTATION

Proposed Action. An expanded III Corps Shoppette would provide additional amenities for the Fort Hood population. The improvements are expected to attract a 40 percent increase in customers over the current 4,000 customers per day, or a new total of 5,600 customers per day. A higher customer volume could result in an increase in traffic on Hood Road and 371st Tank Battalion Avenue. Any traffic increase resulting from the expansion would be supported by the existing roads and are not expected to exceed their capacity.

No Action. Transportation would not be affected under the no-action alternative.

4.11 UTILITIES

Proposed Action. The proposed expansion would result in the addition of 4,000 ft^2 of building space to the current 7,000 ft^2. Based on 2002 energy usage, an expanded III Corps Shoppette would use an additional 9.5×10^8 BTU, a 57 percent increase from the current conditions. The expanded III Corps Shoppette would utilize an estimated 2.61×10^9 BTU annually during operation. This is 0.18 percent of the 2002 annual electric usage on Fort Hood.

Based on federal water use indices, water consumption for each III Corps Shoppette customer is estimated at eight gallons of water per day (AWWA, 1996). The expanded shoppette is expected to attract 5,600 customers per day. This would result in an estimated consumption of 44,800 gallons of water per day during operation and 16.4 million gallons annually. This is 0.68 percent of the total water consumption at Fort Hood in 2002. An estimated 42,560 gallons of wastewater would be used daily at the expanded shoppette, based on the assumption that 95 percent of the water consumed enters the wastewater system. This is an annual consumption of 15.6 million gallons of wastewater, approximately 1.1 percent of the 2002 consumption on the entire installation.

The Proposed Action is not anticipated to adversely affect utility usage at Fort Hood.

No Action. Utilities would not be affected under the no-action alternative.

4.12 ENVIRONMENTAL JUSTICE

Proposed Action. The proposed expansion and renovation of the shoppette would occur completely within the boundaries of the military installation. The proposed action would not result in disproportionately high and adverse human health or environmental effects on minority or low-income populations. The project would not cause environmental health and safety risks that disproportionately affect children.

No Action. The no-action alternative would not result in disproportionately high and adverse health or environmental effects on minority or low-income populations. This alternative would not disproportionately affect the health and safety of children.

4.13 CUMULATIVE IMPACTS

Construction of a Mega Food Court near the intersection of Hood Road and 761st Tank Battalion Avenue is anticipated to begin in fall 2003. The site is approximately 1.7 acres in size. Two buildings would be constructed containing approximately 7,300 ft^2 of space. The Mega Food Court would provide retail fast food services from several retailers and a family amusement area. Construction of the food court would occur simultaneously with the proposed shoppette expansion. Operational effects of the expanded Picnic Palace Shoppette would be cumulative with the Proposed Action, although construction effects would not since the construction periods would not overlap.

4.13.1 Air Quality

Construction on the III Corps Shoppette and the Mega Food Court at Fort Hood would take place concurrently. Construction emissions anticipated for 2003-2004 during construction of the Mega Food Court and the renovation of the III Corps Shoppette, are presented in Table 4-3.

Emissions from the construction of these projects are temporary. Construction on the Mega Food Court may continue after completion of the III Corps Shoppette. The PSTs that would be installed at the III Corps Shoppette and the Picnic Palace Shoppette have an estimated net increase for VOC emission of 6.23 tons per year (tpy), or a percentage increase of 1.0 percent over current stationary, major source emissions for Bell and Coryell counties. Fort Hood personnel have indicated that any increases in emissions

associated with operation of the PSTs would be compensated by decreases in permitted emissions from other sources at the post (Kennedy, 2003).

Table 4-3 Estimated Construction Emissions From Cumulative Actions

Priority Pollutant	CO (tpy)	VOCs (tpy)	NOx (tpy)	SOx (tpy)	PM_{10} (tpy)
III Corps Shoppette Renovation	0.69	0.06	0.46	0.05	3.19
Mega Food Court	0.53	0.07	0.87	0.09	1.94
Cumulative Construction Emissions	1.22	0.13	1.33	0.14	5.13
Net Increase Over Current Bell/Coryell County Emissions (%)	**0.03**	**0.02**	**0.99**	**0.05**	**10.4**

4.13.2 Water Resources

4.13.2.1 Surface Water

The expansion of the III Corps Shoppette would occur on previously developed and paved land. Construction of the Mega Food Court would add approximately 1.7-acres of impervious cover to Fort Hood, representing less than 0.001 percent increase for impervious cover on post.

4.13.2.2 Ground Water

Ground water is encountered at a 50-60 foot depth. Ground water would not be encountered during the installation of the PSTs or removal of the existing USTs. The PSTs would have containment structures that prevent outside contamination in the case of a spill. Excavation required for the Mega Food Court would not exceed 20 feet, and therefore, ground water would not be encountered.

4.13.2.3 Floodplains

Expansion of the III Corps Shoppette, expansion of the Picnic Palace Shoppette, and construction of the Mega Food Court would not occur on a floodplain. The Mega Food Court would add approximately 1.7-acres of impervious cover to Fort Hood, representing a less than 0.001 percent increase on post. The two shoppette projects would add no additional impervious cover.

4.13.2.4 Water Quality

Three 15,000-gallon PSTs would be installed at the III Corps Shoppette. The PSTs are considered ASTs, but would be installed in concrete vaults below ground. An amendment to Fort Hood's current SPCC Plan will be made to include the expanded III Corps Shoppette and ensure compliance. If the PSTs were installed as USTs, an amendment of the plan would not be necessary, but the USTs would be subject to TCEQ regulations relative to USTs.

A Notice of Intent (NOI) for coverage under TCEQ Construction General Permit No. TXR150000, for disposal of storm water associated with construction would be required for the Mega Food Court project. Since the total area disturbed for the expansion of the III Corps Shoppette is less than 1 acre, coverage under TCEQ Construction General Permit No. TXR150000 would not be necessary.

Cumulative impacts to water quality from the proposed projects would not be expected.

4.13.3 Soils and Geology

Due to the low slopes, low erodibility of the soils, previous disturbance, and the utilization of best management practices anticipated for the construction of the Mega Food Court, and expansion of the III Corps Shoppette, geologic resources would not be adversely affected. Therefore, cumulative impacts would not occur.

4.13.4 Land Use

Cumulatively, the three projects would not affect the commercial and administrative land use of the Cantonment area at Fort Hood. All projects are consistent with the land uses in their respective areas.

4.13.5 Biotic Communities

4.13.5.1 Threatened and Endangered Species

Expansion of the III Corps Shoppette and the Picnic Palace Shoppette, and construction of the Mega Food Court on post would occur in previously disturbed, developed, and regularly maintained areas of the post with low habitat value. Therefore, valuable habitat would not be disturbed. The habitat that would be lost under the proposed actions has negligible value to threatened and endangered species on Fort Hood.

4.13.5.2 Wetlands

The three proposed sites are not located in or near wetlands. Therefore, the cumulative impacts of these projects on wetlands would be negligible.

4.13.6 Cultural Resources

The three projects are located within disturbed areas. There would be no cumulative impacts on historical or archaeological resources.

4.13.7 Socioeconomic Resources

4.13.7.1 Population and Demographics

An estimated 100 employees would be hired for operation of the Mega Food Court and 20 for the expanded Picnic Palace Shoppette, for a total number of employees at the three projects of 130. Employees for the projects are expected to be hired from within the local community. Construction of the Mega Food Court and expansion of the shoppettes would not result in any relocations; therefore local housing would not be affected by the projects.

4.13.7.2 Employment and Economy

Construction of the Mega Food Court is estimated to cost approximately $4.6 million. Construction activities required for the expansion of the shoppette is estimated to cost approximately $2.8 million. Together, the cost of these projects is $7.4 million, or 0.57 percent of the $1.3 billion in expenditures reported for Fort Hood in 2001.

Total sales volume is defined as the total change in local business volume due to the proposed action. Expansion of the shoppette would result in an increase of the total sales volume by $3,757,583 or 0.06 percent. The Mega Food Court would increase total sales volume within the ROI by $9,446,619 or 0.14 percent. Both estimated projections are below the total sales RTV value of 11.63 percent.

An estimated 100 employees are expected to be hired for operation of the Mega Food Court while 30 employees would be hired for the expanded shoppettes. Average salary for employees would be $10.50 per hour or $21,840 annually. Employment from the expanded III Corps Shoppette construction would result in an employment increase of 0.02 percent within the ROI. Construction of the Mega Food Court would increase employment approximately 0.09 percent. Employment increases for the combined projects are lower than the respective RTV of 6.27 percent. The total income would increase 0.03 percent from the shoppettes and 0.06 percent from the Mega Food Court. Both increases are less than the income RTV of 10.14 percent.

4.13.8 Noise

Cumulative impacts would occur during the proposed construction of the Mega Food Court and III Corps Shoppette expansion. Construction of these facilities would generate an L_{eq} of 75 to 90 dBA at 50 feet from each site. The construction noise would have some effect on outdoor speech communication in areas adjacent to the construction site. It is anticipated that all proposed construction and demolition activities would take place during standard working hours; therefore, noise generated from construction/demolition activities would not affect nighttime noise levels.

4.13.9 Hazardous Materials and Solid Waste

The expanded III Corps Shoppette would involve the installation of three 15,000-gallon PSTs, and the Picnic Palace Shoppette would involve the installation of two 15,000-gallon PSTs. No hazardous materials would be associated with the proposed Mega Food Court.

Cumulative waste would be generated during the construction phase of the projects. It is assumed that 4 lbs. of waste debris would be generated per ft^2 of building area during construction (Butler, 1995). Construction of the Mega Food Court facility would cover approximately 7,300 ft^2, producing an estimated 29,200 lbs. or 14.6 tons of solid waste. Construction and renovation required for the shoppette expansion would result in approximately 270.5 tons of waste. Together, these projects would produce approximately 285.1 tons of construction waste. This is 0.39 percent of the solid waste generated annually at Fort Hood in 2001.

An expanded III Corps Shoppette is expected to generate approximately 1,179 lbs. of solid waste per day during operation. Operation of the proposed Mega Food Court is estimated to generate approximately 596 lbs. of solid waste per day, based on the size of the facility. Operation of the Picnic Palace Shoppette is estimated to generate approximately 563 lbs. of solid waste daily during operations. The three proposed projects would cumulatively produce 2,338 lbs. of trash daily during operation. This is 0.58 percent of the 200 tons of solid waste generated daily on Fort Hood.

4.13.10 Transportation

The III Corps Shoppette is located on Hood Road. The proposed site for the Mega Food Court is located on the east side of Hood Road, across Hood Road from the shoppette. Hood Road is a major roadway on post. These projects would attract additional customers to the areas, but are not expected to result in cumulative impacts for transportation that would affect the level of service on Hood Road. The Picnic Palace Shoppette is not located in close proximity to the III Corps Shoppette and the Mega Food Court, and cumulative transportation impacts with the Picnic Palace project would not be expected.

4.13.11 Utilities

The proposed Mega Food Court would involve the construction of two buildings totaling approximately 7,300 ft^2. Annual electric usage during operation of the food court is estimated at 1.58×10^9 BTU. Energy usage for operation of an expanded III Corps Shoppette is estimated at 2.61×10^9 BTU annually. Energy usage for operation of an expanded Picnic Palace Shoppette is estimated at 1.96×10^9 BTU annually. Cumulatively, the two projects would utilize approximately 6.15×10^9 BTU of electricity each year, 0.41 percent of the annual usage for Fort Hood.

The food court would consume an estimated 24,000 gallons of water per day. This estimate is based on the assumption of 3,000 customers per day, each consuming eight gallons of water per day (AWWA, 1996). The proposed expansion of the III Corps Shoppette would result in an estimated water consumption of 44,800 gallons of water per day during operation, and the Picnic Palace Shoppette expansion would result in an estimated water consumption of 19,200 gallons of water per day. Together, the shoppettes and food court would consume approximately 88,000 gallons of water daily or 32.1 million gallons annually. This is 1.3 percent of the 2002 water consumption for Fort Hood.

Under the assumption that 95 percent of the water consumed enters the wastewater system, the three projects would generate annual wastewater usage of 30.5 million gallons. This is 2.35 percent of the total wastewater usage for Fort Hood.

4.13.12 Environmental Justice

All three projects are located within the boundaries of Fort Hood. These projects would not present any cumulative impacts for low-income and minority populations, or children.

Chapter 5

List of Preparers

CHAPTER 5

LIST OF PREPARERS

LOPEZGARCIA GROUP Employees	Degree	Professional Discipline	Years of Experience
Craig McColloch, P.E.	B.S., Civil engineering	Environmental engineer	24
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Susan Tuxbury	M.S., Biology/Ecology	Ecologist	5

Chapter 6

Persons and Agencies Contacted

CHAPTER 6

PERSONS AND AGENCIES CONTACTED

Army and Air Force Exchange Service

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Mark Fisher, Planning and Assessment Division

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Omar Bocanegra, Arlington Ecological Services Field Office

Morris and Associates

Ken Pyron, P.E.

Chapter 7

Environmental Permits Required

CHAPTER 7

ENVIRONMENTAL PERMITS REQUIRED

The Proposed Action would require the following environmental permits or regulatory actions:

- The Fort Hood air quality permit would require a minor modification for the new petroleum storage tanks.
- The Fort Hood SPCC plan would require modification to add the new petroleum storage tanks which would be considered aboveground storage tanks from a regulatory standpoint. A modification to the SPCC plan would not be required if the tanks were installed as underground storage tanks.
- The new PSTs would require registration with the TCEQ.

Chapter 8

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CHAPTER 8

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Appendix A

Supporting Information

APPENDIX A

SUPPORTING INFORMATION

This appendix will include the Publishers Affidavit in the final signed EA.